

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT  
(PCT Article 36 and Rule 70)



REC'D 18 OCT 2004

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Applicant's or agent's file reference P 02 088 WO	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/DK 03/00567	International filing date (day/month/year) 29.08.2003	Priority date (day/month/year) 29.08.2002
International Patent Classification (IPC) or both national classification and IPC G06K15/12		
Applicant DICON A/S		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.  
  
☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
  
 These annexes consist of a total of 8 sheets.

3. This report contains indications relating to the following items:
  - I ☒ Basis of the opinion
  - II ☐ Priority
  - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV ☐ Lack of unity of invention
  - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI ☐ Certain documents cited
  - VII ☐ Certain defects in the international application
  - VIII ☐ Certain observations on the international application

Date of submission of the demand  16.03.2004	Date of completion of this report  18.10.2004
Name and mailing address of the International preliminary examining authority:   European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer  Ward, S  Telephone No. +31 70 340-3547  

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/DK 03/00567**

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17):*

**Description, Pages**

1-32 as originally filed

**Claims, Numbers**

1-45 filed with telefax on 27.09.2004

**Drawings, Sheets**

1/8-8/8 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/DK 03/00567**

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	3,17-19-41
	No: Claims	1,2,4-16,18,42-45
Inventive step (IS)	Yes: Claims	
	No: Claims	1-45
Industrial applicability (IA)	Yes: Claims	1-45
	No: Claims	

2. Citations and explanations

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/DK 03/00567

**Re Item V****Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. The following documents are referred to in this communication:

**D1: US2001035944A****D2: US5825400A**

- 2.1 The subject-matter of claim 1 is not new in the sense of Article 33(2) PCT, The document D1 discloses (see paragraphs [0044]-[0054] and figures 1-3): A method of illuminating at least two illumination points by a substantially uniform predefined amount of energy by means of at least one spatial light modulator (20) comprising a plurality of light modulators, whereby the predefined amounts of energy transmitted to said at least two illumination points are at least partly controlled by varying the number of said light modulators illuminating said at least two points (see paragraphs [0047]-[0048] and figure 2).
- 2.2 The further feature of claim 1 that "at least one of said modulators illuminating said at least two points is selected according to at least one predetermined selection parameter" is unclear (Article 6 PCT). Some of these "parameters" are said to be listed in the description of the present application (see page 27, lines 11-30, page 28, lines 1-17), but it is not apparent whether the claimed "parameter" relates to the *reasons* for the choice of pixel blocking arrangement (e.g. limitations of optical design - see page 27, line 23) or to the actual pixel blocking *arrangement* itself (e.g. uniform blocking, for which no particular reason is given - see page 27, lines 19-22).
- 2.3 In any event, D1 discloses (see paragraph [0055]) a number of choices for the pixels to be blocked, for example blocking pixels near the edges of the DMD, in the middle of the main scanning direction, choosing the pixels to be blocked continuously, at regular intervals or at irregular intervals. It would be implicit to the skilled person that these choices would all result in slightly different exposure characteristics, and that the choice between these disclosed blocking arrangements would not be made aimlessly or at random, but according to these different characteristics, which can equally be expressed as "according to a predetermined selection parameter".
- 2.4 It may also be pointed out that at least one of these choices disclosed in D1 (blocking pixels at the edge of the DMD) corresponds precisely to a choice of "parameter" according to the invention as listed in the description of the present application (see

page 27, lines 23-30), which is presumably intended to fall under the scope of claim 1. Thus D1 discloses that at least one of said modulators illuminating said at least two points is selected according to at least one predetermined selection parameter, and hence the subject-matter of claim 1 is not new (Article 33(2) PCT).

3. The features of independent apparatus claim 44 correspond to those of method claim 1, and hence claim 44 is not new in the sense of Article 33(2) PCT for the reasons given above, *mutatis mutandis*.
- 4.1 Dependent claims 2-43 and 45 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the EPC in respect of novelty and/or inventive step, the reasons being as follows:
- 4.2 The additional features of dependent claims 2,4-16,18,42,43 and 45 are disclosed in D1. For example, D1 discloses a light sensitive medium (21), relative motion between the illumination points and the spatial light modulator (see paragraphs [0042]-[0043] and figure 1), the light modulators forming a mask pattern (see figure 2), blocking some of the light modulators (see paragraphs [0047]-[0048] and figure 2), blocking defective light modulators (see paragraph [0050] blocking light modulators based on measurements of the light distribution from the lamp (see paragraphs [0050] and [0048]-[0073] and blocking light modulators in a time varying manner (see paragraph [0074] Hence the subject-matter of claims 2,4-16,18,42,43 and 45 lacks novelty (Article 33(2) PCT).
- 4.3 Illumination methods for printing on a photosensitive medium involving the use of more than one spatial light modulator are well known in the art. The inclusion of this feature into the method of D1 would routinely occur to the skilled person, for purposes of illustration, see document D2 (see figure 26). Claims 19-41 appear to relate to measures which would be obvious to the skilled person in the light of D1. Hence no inventive step in the sense of Article 33(3) PCT can be seen in claims 3, 17, and 19-21.